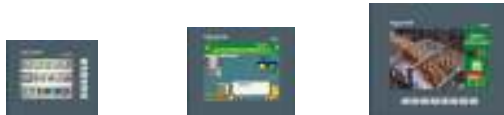


Operator dialogue terminals

Magelis™ GTO Optimum Advanced panels

Applications	Display of text messages, graphic objects and synoptic views Control and configuration of data
Type of terminal	Optimum Advanced panels, touch screen
Degree of protection (according to IEC 60529)	IP 65 (IP 67 with addition of a cover)



Display	Type	Color TFT LCD, backlit 320 x 240 pixels (QVGA)	Color TFT LCD, backlit 800 x 480 pixels (WVGA)	
	Capacity	3.5"	5.7"	7.0" Wide
Data entry	Static function keys	Via touch screen	Via touch screen	Via touch screen
	Dynamic function keys (static or dynamic)	6 function keys	8 function keys	8 function keys (static or dynamic)
	Service keys	–	–	–
	Alphanumeric keys	–	–	–
Memory capacity	Applications	64/96 MB Flash EPROM (1)	96 MB Flash EPROM	
	Expansion	–	By 4 GB SD card (except HMIGTO2300)	
Functions	Maximum number of pages	Limited by internal Flash EPROM memory capacity	Limited by capacity of internal Flash EPROM memory or of SD card	
	Variables per page	Unlimited (8000 variables max.)		
	Representation of variables	Alphanumeric, bitmap, bargraph, gauge, tank, tank level indicator, curves, polygon, button, LED		
	Recipes	32 groups of 64 recipes comprising 1024 ingredients max.		
	Curves	Yes, with log		
	Alarm logs	Yes		
	Real-time clock	Built-in		
	Discrete I/O	–		
	Multimedia I/O	–		
	Communication	Downloadable protocols	Uni-TE (2), Modbus, Modbus TCP/IP (1) and for PLC brands: Mitsubishi, Omron, Allen-Bradley and Siemens	
Asynchronous serial link		RS 232C (COM1) and RS 485 (COM2) except HMIGTO1310: RS 232C/485 (COM1)		
USB ports		1 type A host connector + 1 mini-B connector		
Buses and networks		Ethernet TCP/IP (10BASE-T/100BASE-TX) (3), Modbus Plus and Fipway via USB gateway		
Printer link		RS 232C (COM1) serial link (4) and USB port for parallel printer		
Development software	Vijeo Designer (on Windows XP and Windows 7) (5)			
Operating system	Magelis (333 MHz RISC CPU)			
Type of terminal	HMIGTO1300 HMIGTO1310	HMIGTO2300 HMIGTO2310	HMIGTO3510	
Page	2/11			

(1) Depending on model.
 (2) Uni-TE version V2 for Twido controller and TSX Micro/Premium platform.
 (3) Except HMIGTO1300 and GTO2300 (Modbus Plus and Fipway via USB gateway only).
 (4) Except HMIGTO1310 (USB port for parallel printer only).
 (5) For more information, please refer to our website www.schneider-electric.com.

Display of text messages, graphic objects and synoptic views Control and configuration of data	
Optimum Advanced panels, touch screen	Optimum Advanced panels, touch screen, "Stainless Steel" version
IP 65 (IP 67 with addition of a cover)	IP 66K (Front panel with Stainless Steel frame) for food & beverage environment



Color TFT LCD, backlit 640 x 480 pixels (VGA)	Color TFT LCD, backlit 640 x 480 pixels (VGA)	Color TFT LCD, backlit 800 x 600 pixels (SVGA)	Color TFT LCD, backlit 320 x 240 pixels (QVGA)	Color TFT LCD, backlit 640 x 480 pixels (VGA)	Color TFT LCD, backlit 800 x 600 pixels (SVGA)
7.5"	10.4"	12.1"	5.7"	10.4"	12.1"
Via touch screen					
–					
–					
–					
–					
96 MB Flash EPROM					
By 4 GB SD card					
Limited by capacity of internal Flash EPROM memory or of SD card					
Unlimited (8000 variables max.)					
Alphanumeric, bitmap, bargraph, gauge, tank, tank level indicator, curves, polygon, button, LED					
32 groups of 64 recipes comprising 1024 ingredients max.					
Yes, with log					
Yes					
Built-in					
–					
–					
Uni-TE (2), Modbus, Modbus TCP/IP (1) and for PLC brands: Mitsubishi, Omron, Allen-Bradley and Siemens					
RS 232C (COM1) and RS 485 (COM2)					
1 type A host connector + 1 mini-B connector					
Ethernet TCP/IP (10BASE-T/100BASE-TX), Modbus Plus and Fipway via USB gateway					
RS 232C (COM1) serial link and USB port for parallel printer					
Vijeo Designer (on Windows XP and Windows 7) (5)					
Magelis (333 MHz RISC CPU)					
HMIGTO4310	HMIGTO5310	HMIGTO6310	HMIGTO2315	HMIGTO5315	HMIGTO6315
2/11					

(1) Depending on model.
 (2) Uni-TE version V2 for Twido controller and TSX Micro/Premium platform.
 (3) Except HMIGTO1300 and GTO2300 (Modbus Plus and Fipway via USB gateway only).
 (4) Except HMIGTO1310 (USB port for parallel printer only).
 (5) For more information, please refer to our website www.schneider-electric.com.

2



Magelis color touch screen terminals HMIGTO●●●0 in 5 sizes from 3.5" to 12.1" (standard version)



Magelis color touch screen terminals HMIGTO●●●5 in 3 sizes from 5.7" to 12.1" ("Stainless Steel" version)

Presentation

The Advanced Optimum panels (Magelis GTO) touch screen panels offer includes:

- A range of 8 color touch screen terminals (TFT technology), available in a choice of 5 sizes
 - 3.5"
 - 5.7"
 - 7": 7 Wide and 7.5" (front identical in size)
 - 10.4"
 - 12.1"
- A range of 3 color TFT touch screens available in 3 sizes:
 - 5.7"
 - 10.4"
 - 12.1"
 with front featuring a Stainless Steel frame, dedicated to applications in harsh environments (food & beverage and pharmaceutical).

Operation

Magelis GTO Advanced panels feature optimized information and communication technologies, which, depending on the model, include:

- High level of communication (embedded Ethernet, multilink, Web server and FTP, e-mail)
- External storage of data (SD memory card and USB memory stick) for storing production data and backing up applications
- Management of peripherals: printers, bar code readers, etc.

These terminals offer an excellent level of technical performance designed principally for use by OEM customers.

Environment

The Magelis GTO optimized range has been designed in accordance with numerous standards, certifications and requirements:

- Standards: EN 61131-2, 61000-6-2 and UL508.
- Certifications:
 - CE, C-tick, GOST-R, KCC
 - Atex and UL Hazardous location (pending)
 - Marine certifications (pending).
- Operating temperature: up to 55°C
- Degree of protection (according to IEC 60529):
 - IP 65 for standard version products
 - IP 67 for standard version products fitted with a cover for harsh environments (see accessories page 2/12)
 - IP 66K for "Stainless Steel" version products
- Resistance to high-pressure cleaning (conforming to DIN 40050-9): up to 10 bar for "Stainless Steel" version products.



Display of a video sequence

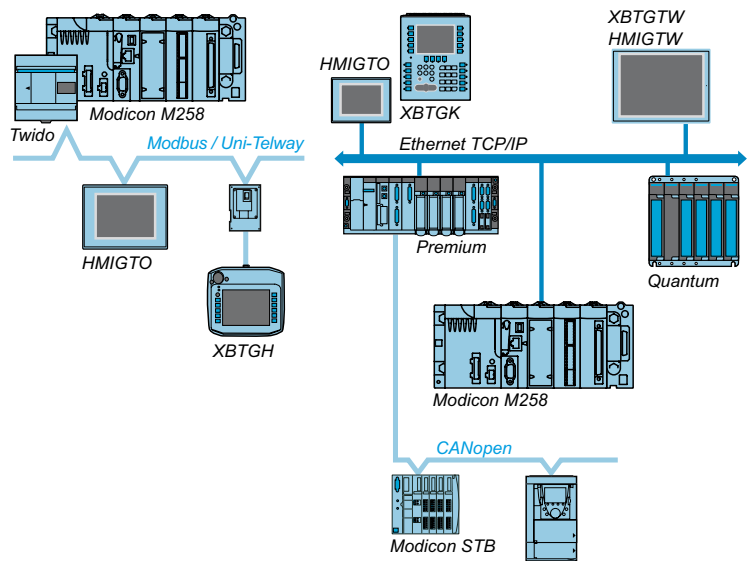
Configuration

Like all the other Magelis Advanced panels, Magelis GTO Advanced Optimum panels can be configured using Vijeo Designer software in a Windows XP and Windows 7 environment.

Vijeo Designer software boasts an advanced user interface with many configurable windows, enabling projects to be developed quickly and easily.

The Magelis GTO range is compatible with Vijeo Designer version V6.1 or later. For more information on Vijeo Designer, please refer to our website www.schneider-electric.com.

Communication



Advanced Optimum panels communicate with PLCs via one or two integrated serial links, using communication protocols:

- Schneider Electric (Uni-TE, Modbus)
- Third-party: Mitsubishi Electric, Omron, Allen-Bradley and Siemens

Depending on the model, they can be connected to Ethernet TCP/IP networks using:

- A Modbus TCP protocol
- An Ethernet TCP/IP protocol
- or a third party protocol

USB accessories for HMI terminals

The Magelis™ USB accessories are designed to expand the selection range of user applications by offering value-added/differentiated HMI solutions. These innovative USB accessories can be easily installed and operated with HMI terminals.

The Magelis USB accessories supported by Mageis GTO include:

- Harmony XVGU USB tower light
- Harmony XB5S biometric USB switch
- Magelis HMIZ illuminated USB switch

For more information on HMI USB accessories, please refer to our website www.schneider-electric.com.

Functions

Advanced Optimum panels offer the following functions:

- Display of animated synoptic views with 8 types of animation (pressing the touch panel, color changes, filling, movement, rotation, size, visibility and value display)
- Control, modification of numeric and alphanumeric values
- Display of current date and time
- Real-time and trending curves with log
- Alarm display, alarm log and management of alarm groups
- Multiwindow management
- Operator-initiated page calls
- Multilingual application management (10 languages at the same time)
- Recipe management
- Data processing via Java script
- Storage of the application and logs on external application memory card in SD format or USB stick
- Management of serial printers, barcode readers

MachineStruxure™



SoMachine software platform



Vijeo Designer configuration software

Architectures and communication

The Magelis GTO Optimum range is perfectly integrated in the MachineStruxure™ (1) automation solutions offer, which helps machine manufacturers (OEMs) to quickly design optimized machines (in terms of cost and energy efficiency).

MachineStruxure™ solutions are based on high performance control platforms and a single software package: SoMachine. SoMachine allows the development, commissioning and programming of machines. SoMachine version 3.1 allows programming of terminals in the Magelis GTO range using Vijeo Designer software.

Advanced Optimum panels have been designed for PlantStruxure™ (2) and MachineStruxure™ (1) architectures as well as for Transparent Ready equipment (combination of Web and Ethernet TCP/IP technologies). Therefore, all panels with an Ethernet port feature a built-in FTP server for data file transfer and a Web Gate function for remote access to the application of the panel from a PC with an Internet browser.

Vijeo Designer also allows Magelis Advanced panels to browse HTML pages and send e-mails.

PlantStruxure™

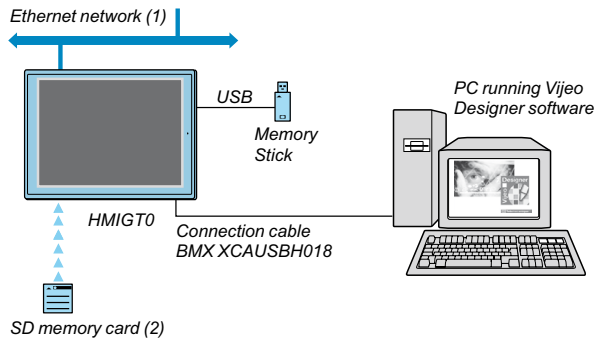
(1) For more information on the "MachineStruxure™" concept, please refer to "Automation solutions for industrial machines" catalog.

(2) For more information on the "PlantStruxure™" concept, please refer to our website www.schneider-electric.com/Solutions/Process and Machines Management.

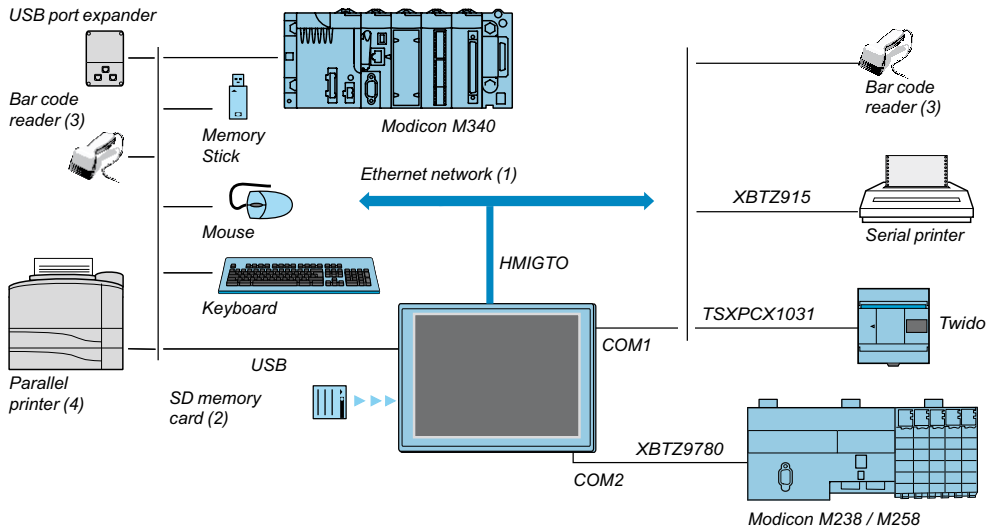
Panel operating modes

The following illustrations show the equipment that can be connected to Advanced Optimum panels according to their two operating modes.

Edit mode



Operating mode



- (1) With **HMIGTO●●1●**.
- (2) Memory card, except HMIGTO 1300/1310/2300.
- (3) Validated with DataLogic Gryphon bar code reader.
- (4) Validated with Hewlett Packard printer via USB/PIO converter.

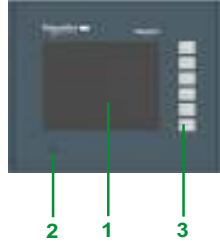
Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels

Panels with 3.5" touch screen

2

Common front



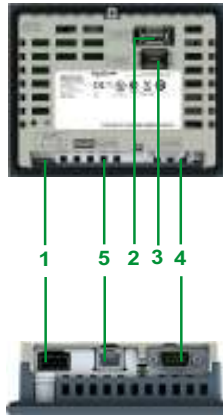
Description

Magelis HMIGTO 1300/1310 Advanced panels

HMIGTO1300 and HMIGTO1310 panels have the following features on the front:

- 1 A touch screen for displaying synoptic views (3.5" color TFT).
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.
- 3 Six function keys (F1, F2, F3, F4, F5 and F6).

Rear HMIGTO1300

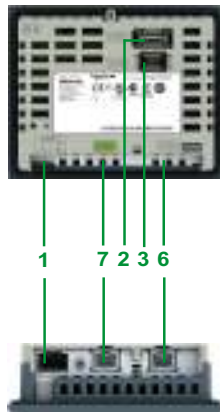


Underside HMIGTO1300

The HMIGTO1300 panel has the following features on the rear and underside:

- 1 A removable screw terminal block for 24 V $\overline{\text{DC}}$ power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 4 A 9-way male SUB-D connector for RS 232C serial link to PLCs (COM1).
- 5 An RJ45 connector for RS 485 serial link to PLCs (COM2).

Rear HMIGTO1310



Underside HMIGTO1310

The HMIGTO1310 panel has the following features on the rear and underside:

- 1 A removable screw terminal block for 24 V $\overline{\text{DC}}$ power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 6 An RJ45 connector for RS 232C or RS 485 serial link to PLCs (COM1).
- 7 An RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX.

Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels

Panels with 5.7" touch screen, standard and Stainless Steel version

Front



2 1



3 2 1

Description

Magelis Advanced panels HMIGTO2300/2310 (standard version) and HMIGTO2315 (Stainless Steel version)

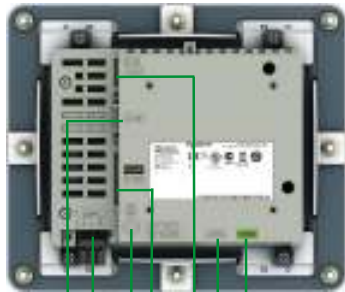
HMIGTO2300 and HMIGTO2310 panels have the following features on the front:

- 1 A touch screen for displaying synoptic views (5.7" color TFT).
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.

The HMIGTO2315 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (5.7" color TFT).
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.
- 3 A Stainless Steel frame, for food & beverage environments. Only this product provides IP 66K degree of protection.

Rear HMIGTO2315



4 1 7 5 6 2 3 8

All 3 of these panels have the following features on the rear and underside:

- 1 A removable screw terminal block for 24 V $\bar{\text{DC}}$ power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 4 A 9-way male SUB-D connector for RS 232C serial link to PLCs (COM1).
- 5 An RJ45 connector for RS 485 serial link (COM2).

On HMIGTO2310 and HMIGTO2315 only:

- 6 A slot for SD memory card, with hinged cover.
- 7 LED indicating presence of the SD memory card.
- 8 An RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX.

Underside HMIGTO2315

Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels

Panels with 7.0" Wide and 7.5" touch screen

2

Front

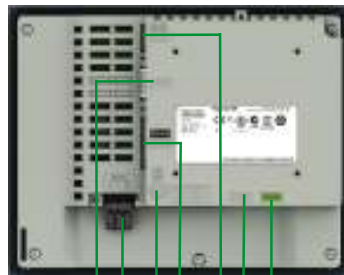


2 1 3



2 1

Rear



4 1 7 5 6 2 3 8

Underside

Description

Magelis Advanced panels HMIGTO3510/4310

The HMIGTO3510 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (7.0" Wide color TFT)
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.
- 3 Eight function keys (F1, F2, F3, F4, F5, F6, F7 and F8).

The HMIGTO4310 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (7.5" color TFT)
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.

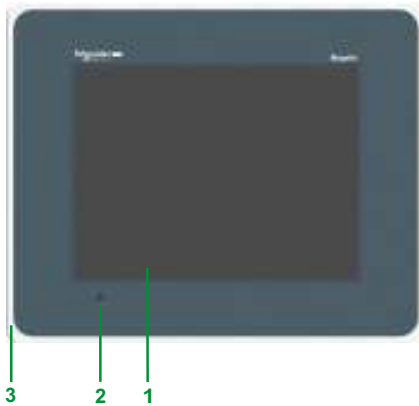
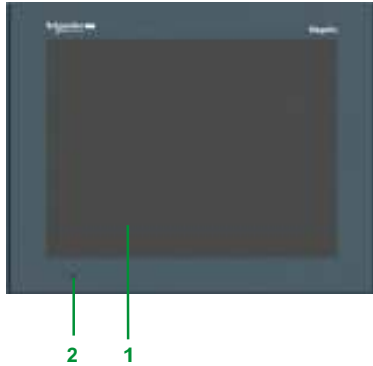
Both terminals have the following features on the rear and underside:

- 1 A removable screw terminal block for 24 V $\bar{\text{---}}$ power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 4 A 9-way male SUB-D connector for RS 232C serial link to PLCs (COM1).
- 5 An RJ45 connector for RS 485 serial link (COM2).
- 6 A slot for SD memory card, with hinged cover.
- 7 LED indicating presence of the SD memory card.
- 8 An RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX with an activity LED.

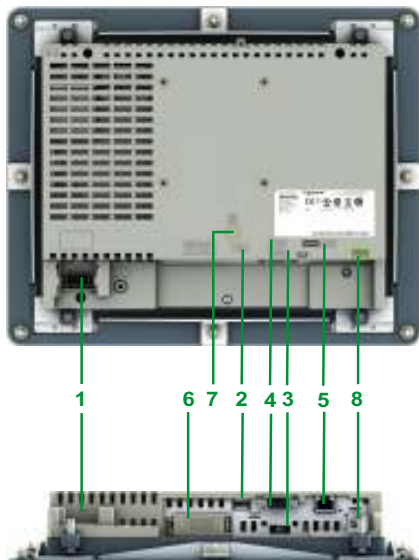
Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels
Panels with 10.4" touch screen, standard and
Stainless Steel version

Front



Rear



Underside

Description

Magelis Advanced panels HMIGTO5310 (standard version) and HMIGTO5315 (Stainless Steel version)

The HMIGTO5310 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (10.4" color TFT)
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.

The HMIGTO5315 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (10.4" color TFT)
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.
- 3 A Stainless Steel frame, for food & beverage environments. Only this product provides IP 66K degree of protection.

Both terminals have the following features on the rear and underside:

- 1 A removable screw terminal block for the 24 V $\overline{\text{DC}}$ power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 4 A 9-way male SUB-D connector for RS 232C serial link to PLCs (COM1).
- 5 An RJ45 connector for RS 485 serial link (COM2).
- 6 A slot for SD memory card, with hinged cover.
- 7 LED indicating presence of the SD memory card.
- 8 An RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX with an activity LED.

Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels
Panels with 12.1" touch screen, standard and
Stainless Steel version

2

Front

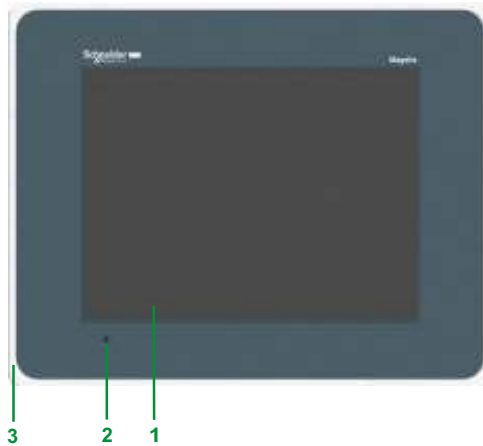


Description

Magelis Advanced panels HMIGTO6310 (standard version) and HMIGTO6315 (Stainless Steel version)

The HMIGTO6310 panel has the following features on the front:

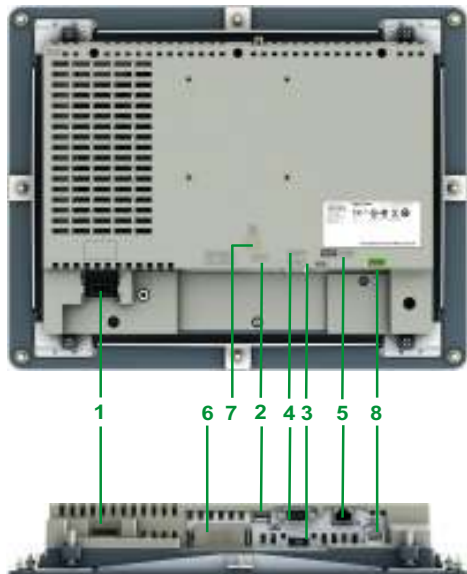
- 1 A touch screen for displaying synoptic views (12.1" color TFT).
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.



The HMIGTO6315 panel has the following features on the front:

- 1 A touch screen for displaying synoptic views (12.1" color TFT).
- 2 A multicolor indicator (green, orange and red) showing the panel's operating mode.
- 3 A Stainless Steel frame, for food & beverage environments. Only this product provides IP 66K degree of protection.

Rear



Both terminals have the following features on the rear and underside:

- 1 A removable screw terminal block for the 24 V \square power supply.
- 2 A type A USB host connector for connecting peripherals, transferring applications and Modicon M340 terminal port communication.
- 3 A mini-B USB connector for application transfer.
- 4 A 9-way male SUB-D connector for RS 232C serial link to PLCs (COM1).
- 5 An RJ45 connector for RS 485 serial link (COM2).
- 6 A slot for SD memory card, with hinged cover.
- 7 LED indicating presence of the SD memory card.
- 8 An RJ45 connector for Ethernet TCP/IP link, 10BASE-T/100BASE-TX with an activity LED.

Underside

Operator dialogue terminals

Magelis™ GTO Advanced Optimum panels

Panels with 3.5" to 12.1" touch screen



Optimum 24 V DC panels with color touch screen, standard version ⁽¹⁾

Data entry method	Number of ports	Application memory capacity	Memory expansion by SD card	Serial link	Embedded Ethernet	Reference	Weight kg
3.5" QVGA TFT LCD screen, 320 x 240 pixels							
Via touch screen + 6 function keys	2 USB	64 MB	No	1 COM 1 1 COM 2	–	HMIGTO1300	0.400
	2 USB	96 MB	No	1 COM 1	1	HMIGTO1310	0.400



5.7" QVGA TFT LCD screen, 320 x 240 pixels							
Via touch screen	2 USB	64 MB	No	1 COM 1 1 COM 2	–	HMIGTO2300	0.800
	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO2310	0.800



7.0" WVGA (Wide) TFT LCD screen, 800 x 480 pixels							
Via touch screen + 8 function keys	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO3510	1.200



7.5" VGA TFT LCD screen, 640 x 480 pixels							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO4310	1.200



10.4" VGA TFT LCD screen, 640 x 480 pixels							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO5310	2.000



12.1" SVGA TFT LCD screen, 800 x 600 pixels							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO6310	2.500



Optimum 24 V DC terminals with color touch screen, Stainless Steel version ^{(1) (3)}

Data entry method	Number of ports	Application memory capacity	Memory expansion by SD card	Serial link	Embedded Ethernet	Reference	Weight kg
5.7" QVGA screen, 320 x 240 pixels, with Stainless Steel frame (IP 66K)							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO2315	1.200
10.4" VGA screen, 640 x 480 pixels, with Stainless Steel frame (IP 66K)							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO5315	2.500
12.1" SVGA screen, 800 x 600 pixels, with Stainless Steel frame (IP 66K)							
Via touch screen	2 USB	96 MB	Yes (2)	1 COM 1 1 COM 2	1	HMIGTO6315	3.000

(1) Terminals supplied with fixing kit (screw clips), locking device for USB connectors and instruction sheet. Setup documentation for Magelis GTO terminals is included in electronic format with Vijeo Designer configuration software, refer to our website www.schneider-electric.com.

(2) Memory expansion possible with 4 GB SD card **HMI ZSD4G**, see accessories page 2/13.

(3) The Stainless Steel version includes a front with Stainless Steel frame. Only this version provides IP 66K degree of protection.